

Title (en)  
NANOMATERIAL-COATED FIBERS

Title (de)  
MIT NANOMATERIAL BESCHICHTETE FASERN

Title (fr)  
FIBRES REVÊTUES DE NANOMATÉRIAUX

Publication  
**EP 3759266 A4 20211201 (EN)**

Application  
**EP 19761532 A 20190228**

Priority  
• US 201862637699 P 20180302  
• IB 2019051634 W 20190228

Abstract (en)  
[origin: WO2019166993A1] Nanomaterial-coated fibers and methods of manufacture thereof are provided. A nanomaterial-coated fiber includes a stretchable fiber core and a mesh of high aspect ratio nanomaterials coated around the stretchable fiber core. The mesh imparts a material property to the nanomaterial-coated fiber continuous throughout a length of the nanomaterial-coated fiber. The mesh maintains the material property upon stretching of the length of the nanomaterial-coated fiber. A nanomaterial-coated fiber is produced by obtaining a stretchable fiber core, coating the stretchable fiber core with high aspect ratio nanomaterials, and forming a mesh of the high aspect ratio nanomaterials around the stretchable fiber core. The mesh may be electrically conductive to impart electrical conductivity to the nanomaterial-coated fiber. Nanomaterial-coated fibers may be wound into a yarn.

IPC 8 full level  
**D01F 1/09** (2006.01); **B82Y 30/00** (2011.01); **D02G 3/02** (2006.01); **D02G 3/36** (2006.01); **H01B 1/22** (2006.01)

CPC (source: EP KR US)  
**D02G 3/36** (2013.01 - EP KR US); **D02G 3/441** (2013.01 - EP KR US); **D06M 11/74** (2013.01 - EP KR US); **D06M 11/83** (2013.01 - EP KR US); **D06M 23/08** (2013.01 - EP KR US); **H01B 1/20** (2013.01 - EP KR US); **B82Y 30/00** (2013.01 - EP KR US); **D10B 2401/16** (2013.01 - US)

Citation (search report)  
• [XII] WO 2017058339 A2 20170406 - UNIV TEXAS [US]  
• [XII] US 2005170177 A1 20050804 - CRAWFORD JULIAN S [US], et al  
• [XII] EP 2862967 A1 20150422 - UNIV V LIBERCI TECCH [CZ]  
• [X] CN 104752734 B 20170118  
• [A] US 2007079867 A1 20070412 - CHITTIBABU KETHINNI [US], et al  
• [X] US 2012295109 A1 20121122 - JIRSAK OLDRICH [CZ], et al  
• See also references of WO 2019166993A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
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